

# MICROSONIC 1

## Ultrasonic Detector



## Installation Instructions

### 1. DESCRIPTION

MICROSONIC 1 is the smallest ultrasonic Intrusion detector on the market. Compact and easily concealed, MICROSONIC 1 offers many unique, advanced features, which make it superior to most conventional ultrasonic motion detectors.

Thanks to the MICROSONIC 1 crystal-controlled oscillator, any number of detectors can be installed in a specific area without interfering with each other. Wide areas can be protected by installing any number of detectors required, with no synchronization necessary.

Precise crystal controlled 40 kHz frequency and sophisticated signal processing circuitry make the MICROSONIC 1 immune to false alarms caused by telephones, bells or other environmental disturbances, while retaining excellent intruder detection performance. Due to its unique signal processing circuitry, constant sensitivity is maintained throughout the protection pattern. A solid-state Alarm/Walk Test LED indicator is provided to allow easy range adjustment.

MICROSONIC 1 may be mounted on any plane, vertical or horizontal, or in any location – ceilings, walls, or corridors – projecting the ultrasonic pattern at any desired angle.

#### 1.1 Features

- Ultra small size
- Adjustable detection pattern
- Crystal controlled oscillator
- 40 kHz operation
- Multiple-unit installation
- Walk test LED
- Sophisticated signal processing
- 12 VDC operation
- Uniform sensitivity
- Low power consumption
- Fail-safe relay
- Solid state circuitry



### 2. SPECIFICATIONS

**Power input:** 9 to 16 VDC (12 V nominal), 100 mV ripple max. Protected against reverse polarity.

**Current Drain:** 25 mA

**Frequency:** 40 kHz  $\pm$ 1 Hz, crystal controlled.

**Pattern:** Elliptical pattern 9 X 5 m (28 X 16 ft) nominal (varies with room shape, acoustics, temperature, humidity). Range is adjustable from 0 to 9 meters.

**Relay Output:** Normally closed reed relay contacts. Relay will also operate in case of power loss.

**Relay Contact Rating:** 100 mA / 28 VDC - resistive.

**Tamper Contacts:** Normally closed; rating: 0.5A/24VDC resistive

**Alarm LED:** Permits range and pattern tests by walking in the protected area. Lights during alarm condition. The unit has a built-in delay which allows the first one or two steps to be undetected.

**Detector LED:** Permits the detection and canceling of background disturbance sources during installation. Indicates any movement or disturbance within the protected area. The LED is visible only when the cover is removed.

**Sensitivity:** 1 to 2 steps sensitivity throughout the protection zone.

**Operating Temperature:** -10°C to 50°C.

**Mounting:** Horizontally or vertically – wall, ceiling or corner mounting. Mounting angles: 0°, 30°, 60°, 90°.

**Enclosure:** High-impact ABS case measuring 115 X 65 X 35 mm (L X W X D).

**Weight:** 100 g

### 3. INSTALLATION

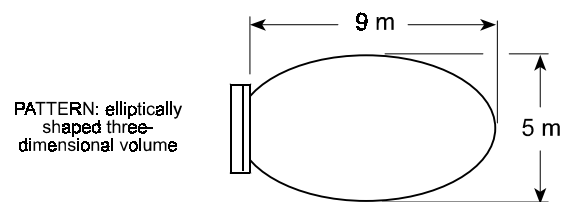
#### 3.1 Principle of Operation

MICROSONIC 1 transmits invisible and inaudible sound waves into the protected area, and picks up the energy which is reflected back to the unit. An intruder moving into the protected area causes some waves to be reflected at a changed frequency (Doppler effect). When a frequency shift (caused by intruder movement) is detected by the MICROSONIC 1 sophisticated signal processing circuit, an alarm is produced.

#### 3.2 Multiple Unit Installation

Use of precision 40 kHz crystal-controlled circuitry allows installation of an unlimited number of MICROSONIC 1 ultrasonic transceivers within a common area. Overlapping patterns will

have an effect on the shape and size of the protected area. Sensitivity within the volumetric area being protected will increase, and any interaction between units will not cause false alarms.



## WARRANTY

Visonic Ltd. and/or its subsidiaries and its affiliates ("the Manufacturer") warrants its products hereinafter referred to as "the Product" or "Products" to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period, at its option, to repair or replace the product or any part thereof. The Manufacturer shall not be responsible for dismantling and/or reinstallation charges. To exercise the warranty the product must be returned to the Manufacturer freight prepaid and insured.

**This warranty does not apply in the following cases:** improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the Manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential or incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer does not represent that its Product may not be compromised and/or circumvented, or that the Product will prevent any death, personal and/or bodily injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. User understands that a properly installed and maintained alarm may only reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no death, personal damage and/or damage to property as a result.

**The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.** However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, the Manufacturer's maximum liability shall not in any case exceed the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

**Warning:** The user should follow the installation and operation instructions and among other things test the Product and the whole system at least once a week. For various reasons, including, but not limited to, changes in environmental conditions, electric or electronic disruptions and tampering, the Product may not perform as expected. The user is advised to take all necessary precautions for his /her safety and the protection of his/her property.

6/91



VISONIC LTD. (ISRAEL): P.O.B 22020 TEL-AVIV 61220 ISRAEL. PHONE: (972-3) 645-6789, FAX: (972-3) 645-6788

VISONIC INC. (U.S.A.): 10 NORTHWOOD DRIVE, BLOOMFIELD CT. 06002-1911. PHONE: (860) 243-0833, (800) 223-0020 FAX: (860) 242-8094

VISONIC LTD. (UK): UNIT 1, STRATTON PARK, DUNTON LANE, BIGGLESWADE, BEDS. SG18 8QS. PHONE: (01767) 600857 FAX: (01767) 601098

©VISONIC LTD. 1998 MICROSONIC1 D-1871-0 NEW: DE1871- (REV. 2, 4/98)

MADE IN  
ISRAEL